

CORRESPONDING AMENDMENT IN THE SPECIFICATION:



Another object of the invention is to provide a portable communicator having enhanced operability.

DISCLOSURE OF THE INVENTION

A portable communicator according to the invention is provided with a portable housing, wireless communication means provided in the housing and wirelessly connected to a public communication channel for transmitting or receiving via the public communication channel, and a portable computer provided in the housing for directing control command to the wireless communication means, entering data via the wireless communication means through the public communication channel, or transmitting data via the wireless communication means through the public communication channel. This provision forms a basic construction.

Furthermore, the portable computer is provided with pen input means having a function to enter a facsimile number by writing the facsimile number with a pen. Therefore, just by operating the pen, drawing information or other can be transmitted to the desired addressee.

The portable computer is also provided with determination means for determining whether or not the communicator is communicating with the connected main control unit, and update means for receiving the latest application program and data table transmitted during communication when it is determined that communication is being made.

Therefore, the program or data updated before hand can be available at any time if necessary.

The portable computer for use by a finance salesman has a function of exchanging data with a finance center using the software storage media applied for the purpose, executing the payment process, deposit process or other financial process and printing process results on a passbook or other. Therefore, if the passbook is kept by the financial salesman but it is required for some reason, necessary process can be executed at the side of the salesman.

The portable computer has a function of transmitting the position information of the current position, regardless of intention of a telephoner during making a telephone call by operating the portable communicator, or when a request for transmission is made by a telephonee. Therefore, even in case of emergency, the position where the telephoner is can be exactly transmitted to the addressee.

The portable computer has a function of extracting the feature of the vicinity of the current position from the current position information.

The portable computer also has a function of selecting an individual, company or official agent having the shortest distance or travel from a plurality of individuals, companies and official agencies providing a specified service, based on the position information.

The portable computer is further provided with memory means for storing the position information and the

corresponding place name data such that the place name data corresponding to position data is retrieved from the memory means and the retrieved place name data is announced.

The portable computer is adapted to store the electric wave form for linkage to a wireless communication network, frequencies, protocol or other connection specification, identify linkable service networks, determine the network to apply based on the predetermined order of priority, and to communicate. The user can be in wireless communication by using the desired communication networks according to the user's predetermined order of priority.

With the portable computer, communication companies providing telephone service are displayed on display means and the user can the desired company from the display. Through the computer, the user can be given translation service or other desired service.

The portable computer detects people's countenance, selects the predetermined item displayed on the display means based on the countenance, displays a predetermined identification marker on the selected item, and transmits or receives data regarding the selected item.

According to another aspect of the invention, a communication system is composed of a center unit and a terminal unit wirelessly connectable to the center unit. When the user of the terminal unit instructs the center unit to provide positions to drop in, the center unit transmits to the terminal unit the route information and map information

indicating the places to drop in. When the user of the terminal unit transmits purchase order information to the center unit at the places the user drops in, the center unit processes the purchase order information.

In the communication system according to further aspect of the invention, the center unit provides the terminal unit with places and time to drop in.

In the invention of another aspect, the center unit is provided with route set means for setting the route for efficiently traveling the places, in response to receipt from the terminal unit of the information of a plurality of places to drop in.

According to another aspect of the invention, the information process unit executes various processes, in response to people's countenance.

In the image information transmission unit of further aspect of the invention, when character or drawing information is entered by operating a pen, the entered character information is converted to a specified code. Subsequently, when the facsimile number is entered designating the input information is the facsimile number, the converted code is transmitted to the designated addressee having the entered facsimile number.

In further aspect, the invention provides a pen input unit. When the character or drawing information is input by operating a pen, the entered character information is displayed. In the pen input unit, when the number of

characters to display exceeds the predetermined number of characters, the previously input characters are compressed for display. Newly input characters are displayed in an uncompressed condition.

BRIEF EXPLANATION OF DRAWING FIGURES

Fig. 1 is a perspective view of a personal communicator 1 in the first embodiment.

Fig. 2 is a perspective view of the personal communicator 1 in a closed condition.

Fig. 3 is a block diagram of the personal communicator 1.

Fig. 4 is an explanatory view of a display 15.

Fig. 5 is an explanatory view of the control over display.

Fig. 6 is a flowchart of the processing routine for the display control.

Fig. 7 is a flowchart of the processing routine for the monitor control.

Fig. 8 shows the personal communicator 1 on standby and being charged.

Fig. 9 is a flowchart of the processing routine for communicator control.

ARGUMENT IN RESPONSE TO THE WRITTEN OPINION OF THE INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY HAVING MAILING DATE AUGUST 30, 1994, RECEIVED ON OCTOBER 24, 1994 BY JAPANESE PATENT OFFICE AS INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

(1) Introduction

In response to the written opinion bearing the mailing date August 30, 1994, we are filing claims 1 through 32.

No amendment is made in claims 1, 2, 9, 10, 19, 21, 22.

Claims 3, 4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 20 and 26 are amended.

Claims 23, 24, 25 are deleted.

Claims 27, 28, 29, 30, 31, 32 are added.

(2) Difference between the present Invention and cited Documents

Regarding claim 3

According to the invention recited in claim 3, in the portable communicator for communicating with a host unit to exchange data therewith, the operation program and the data table are updated during ordinary communication. For the purpose, the portable communicator is provided with "means for determining whether or not a main control unit is being communicated with" and "update means for receiving and updating the latest operation program and data table transmitted during the communication from the main control unit, only when it is determined that the main control unit is being communicated.

The retrieval system of cited document 1(JP,A,5-191339) is not provided with the aforementioned means. The cited document 1, column 3, lines 18-20 read "a center unit continuously updates map information, and a movable terminal unit requests the center unit for the information and updates its own system". Therefore, the retrieval system of document 1 does not update the latest operation program and data table transmitted from the center unit only during the communication made therewith.

According to the invention recited in claim 3, since the program and data of information service executing complicated process are updated beforehand, the program and data are always available for the process, avoiding the necessity of communicating wastefully. The retrieval system of document 1 does not provide such effects.

Additional claim 27 depends from amended claim 3.

Regarding claim 4

According to the invention recited in claim 4, the portable communicator executes various transaction process through the software storage medium applied specifically for financial salesman. The portable communicator is provided with "software storage medium for storing the information for executing payment process, current account process, ordinary deposit process or time deposit process" and "read means for reading information from the software storage medium detachably attached to the read means".

Cited document 2 (JP,A,2-153467) relates to ATM used by general clients, different from the invention recited in claim 4.

Conventionally, a bank salesman, when entrusted with deposit or other process, goes with a passbook from the client's back to the bank for executing the process and then brings the passbook back to the client. The client, even in case of need, has to do without the passbook for a while. In the invention recited in claim 4, however, the salesman can execute the process and print process result on the passbook at the client's. The client never does without the passbook.

Regarding claim 5

According to the invention recited in claim 5, the communication signal mixed with the signal indicating the current position is transmitted during emergency transmission. For the purpose the portable communicator is provided with "position coordinate data input means for entering the position coordinate data indicating the current position from GPS user unit held in the housing or provided outside the housing", "emergency transmission instruction means for instructing the communication in case of emergency", and "signal superposition means for superposing the position coordinate data indicating the current position entered by the position coordinate data input means over the telephone talk signal from the call means, according to an instruction from the emergency transmission instruction

means".

Cited document 3 (JP,A,4-295995), column 5, lines 3-9 read "After line connection is confirmed (F107), coordinate data ID code is first transmitted via DTMF encoder 18 (F108). Subsequently, x-coordinate code and y-coordinate code are transmitted (F109). Furthermore, message phonetic data (for example, ACCIDENT HAPPENS or other phonetic data) stored in emergency message output part 19 is read and transmitted (F110)."

The cited document 3, column 6, lines 42 through 50 read "After coordinate ID code 91 is confirmed, subsequently transmitted x coordinate code 92 and y coordinate code 93 are decoded. Coordinate values are taken into CPU 56 (F204). Subsequently, an operator talks through a receiver 52. ---(omitted)--- Furthermore, if possible, the person involved in the accident can be called."

The cited document 3 differs from the invention recited in claim 5 in the following.

First, in the cited document 3, the position information and message are transmitted sequentially. In the invention, however, the position information is announced during telephone call.

Secondly, in the cited document 3, after the predetermined message is transmitted, the person involved in the accident can be called. In the invention, immediately after the telephone line is connected, telephone call can be made with the person. In the cited document 3, it takes time

to confirm whether or not the accident information has been transmitted. In the invention it can be confirmed immediately. This is a big difference for the person asking for help.

As aforementioned, the cited document 3 is different from the invention recited in claim 5.

Regarding claims 6,7,8

These claims depend from the amended claim 5.

Regarding claim 11

In the portable communicator recited in claim 11, when there are a plurality of service networks in one district, the desired network can be selectively connected with automatically. To this end, the portable communicator is provided with "determination means provided in the housing for identifying linkable service networks and determining a network to use among the identified service networks based on the predetermined order of priority" and "connection specification signal output means provided in the housing for transmitting a signal regarding connection specification to the wireless communication means or the communication control means, based on the storage content of the connection specification memory means and the determination content of the determination means".

In cited document 6 (JP,A,4-192728) it is premised that there is only one service network in one district. This is

clear from expression in the claim of the document 6 "current position determination means for determining in which service area the portable communicator now exists".

Regarding claim 12

The portable communicator recited in claim 12 is characterized in that the communication company providing telephone service can be selected. To this end, the portable communicator is provided with "memory means for storing data regarding the content of service registered beforehand corresponding to the service of communication company providing telephone service", "display means for displaying the content of service stored in the memory means", and "selection means for selecting a specified service from the services displayed on said display means".

On the other hand, cited document 7 (JP,A,4-120700) relates to a traffic control system. The system is not provided with a function of providing telephone service recited in claim 12.

Claims 13, 14 depend from the amended claim 12.

Regarding claim 15

The portable communicator recited in claim 15 is characterized in that people's countenance is detected and the predetermined data process is executed corresponding to the countenance. For the purpose, the communicator is provided with "display means for displaying information

regarding the item to be selected by people's countenance", "image data base for storing a plurality of prepared image information regarding people's countenance as well as specified codes corresponding to respective image information", "image detection means for detecting image", "image retrieval means for retrieving from the image data base the information regarding the people's countenance of the image similar to the image detected by the image detection means and transmitting the code corresponding to the image information", "display control means for displaying identification marker on the item displayed by the display means, based on the code transmitted from the image retrieval means", and "data transmitting and receiving means for transmitting and receiving the data regarding the item selected via the wireless communication means, based on the code transmitted from the image retrieval means".

Cited document 9 (JP,A,3-252775) discloses the countenance identification result output part for transmitting the result of identifying what countenance corresponds to the identification object pattern. However, it neither teaches nor suggests that the items to be selected are displayed on display means, the item is selected corresponding to the countenance, and the identification marker is displayed on the selected item.

Additional claim 28 depends from claim 15.

Regarding claim 16

The communication system recited in claim 16 has a function of instructing a traveling route and processing purchase orders based on the results from the traveling. For the purpose, the terminal unit of the communication system is provided with "transmission control means for transmitting to the center unit the order information obtained at the place to drop in" and the center unit is provided with "order process means for processing order based on the order information from the terminal unit".

Cited documents 10,11 (JP,A,5-79847 and JP,A,4-152724) neither teach nor suggest the purchase order process.

Regarding claims 17,18

Claim 17 is formed by incorporating the feature recited in the claim 17 before amended into the claim 16 before amended.

Claim 18 depends from the claim 17 before amended.

Regarding claim 20

In the information process unit recited in claim 20, image pickup means is provided adjacent to the display surface. The forward part of the display surface corresponds to the image pickup range. Therefore, while referring to the display, the countenance is changed, thereby giving various instructions.

Cited document 9(JP,A,3-252775) neither teaches nor suggests the aforementioned feature.

Regarding claim 26

Claim 26 recites the portable communicator in which the place name data corresponding to the current position is guided with voice. This is different from the cited document 4 (JP,A,4-231238) relating to a security system mounted on vehicles. The amended claim 26 clarifies the structure of the portable communicator.

Regarding claims 29,30,31,32

Claim 29 is derived from the claim 5 before amended. The portable communicator transmits the current position information according to the transmission form instructed from the other party on line, in response to the signal requesting for transmission of position information from the other party.

Claims 30,31,32 depends from claim 29. As the form of transmission, claim 30 recites voice with which the feature of the vicinity of the current position is announced, claim 31 recites facsimile by which the vicinity map is indicated, and claim 32 recites voice with which the feature of the vicinity obtained from map information is announced.